

# EPA Response to Hurricane Harvey

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Region 6

1/16/2018

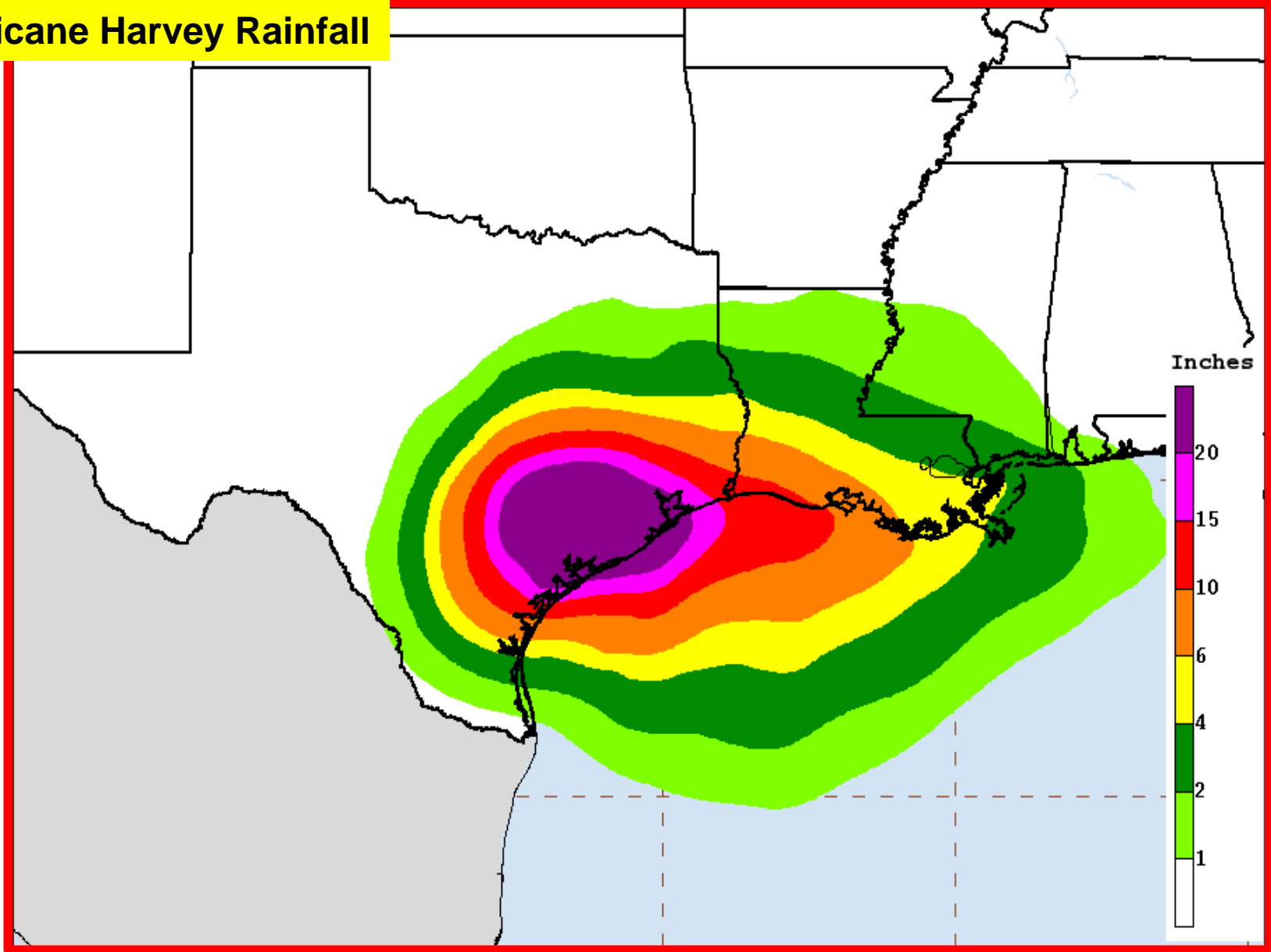


# HARVEY'S HISTORY

AUGUST 2017



# Hurricane Harvey Rainfall

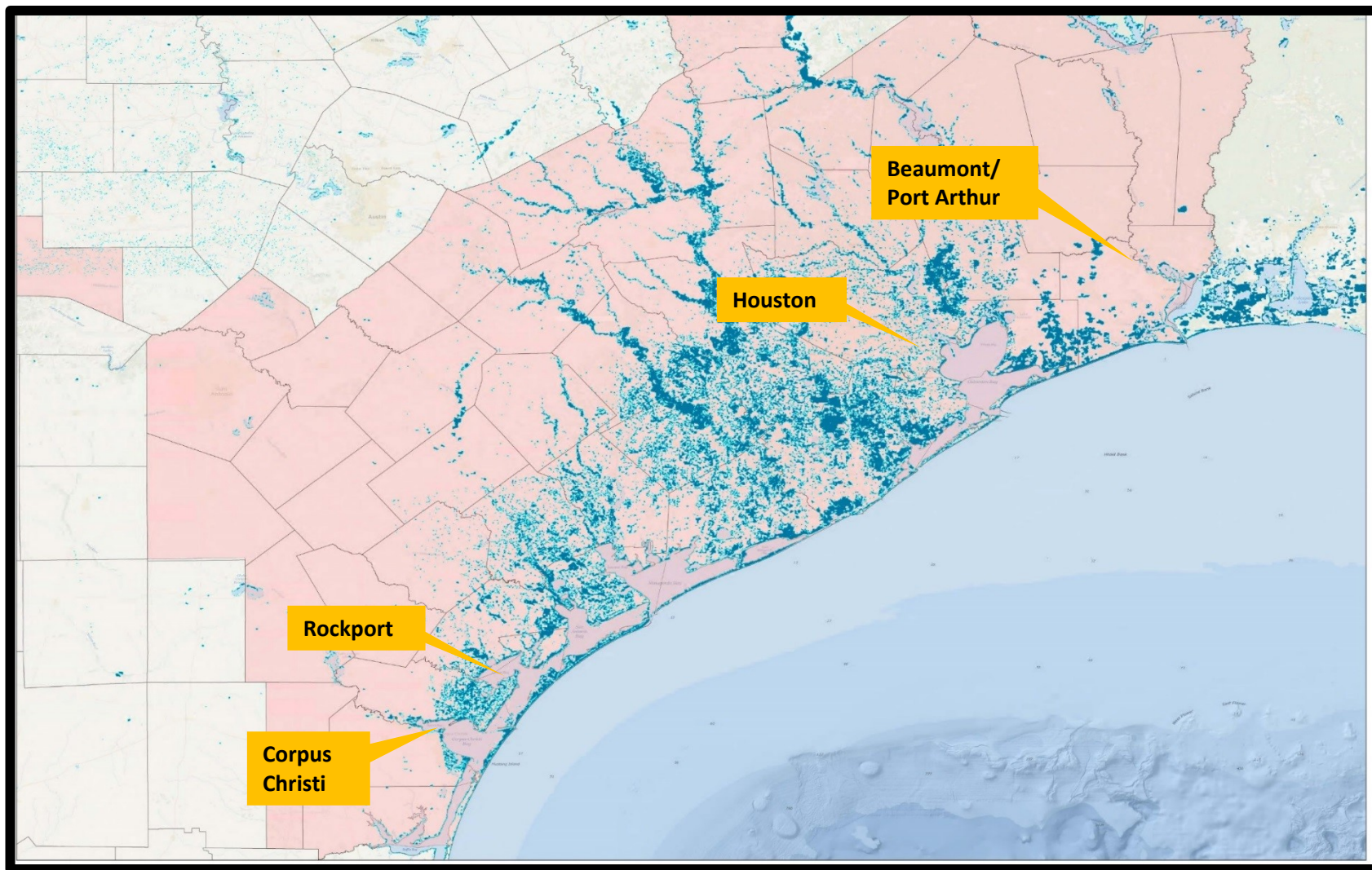


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# Hurricane Harvey Flooding



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# UNIFIED COMMAND

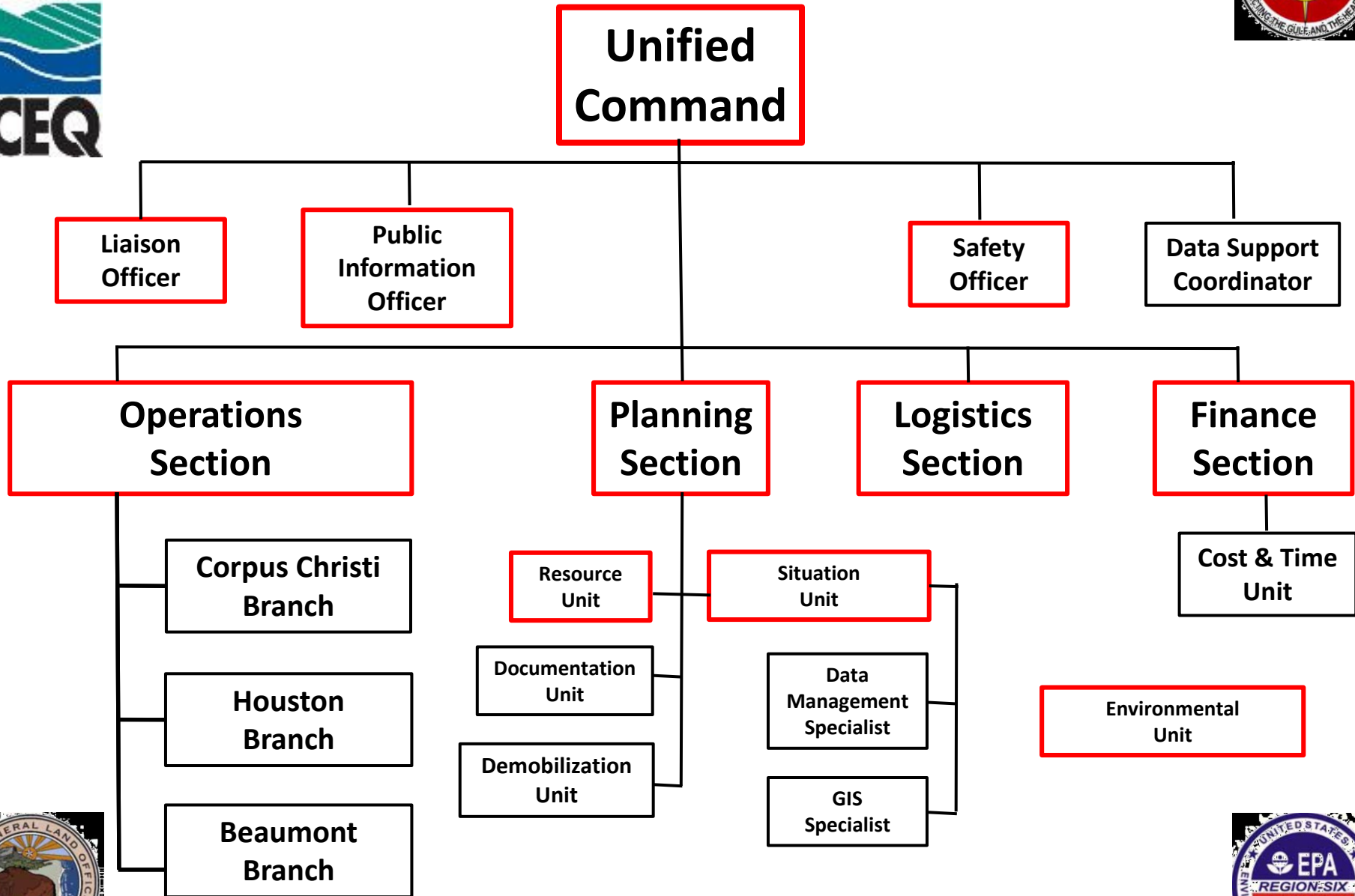


# RESPONSE OBJECTIVES

- Maximize protection of public, health, and safety.
- Coordinate through the Unified Command.
- Drinking water and wastewater systems
- Orphaned containers or discharges
- Identify and address pollution targets.
- Critical infrastructure, chemical, and refining facilities
- Inform the public, stakeholders, and the media
- Deploy unique EPA assets
- Secure Superfund sites

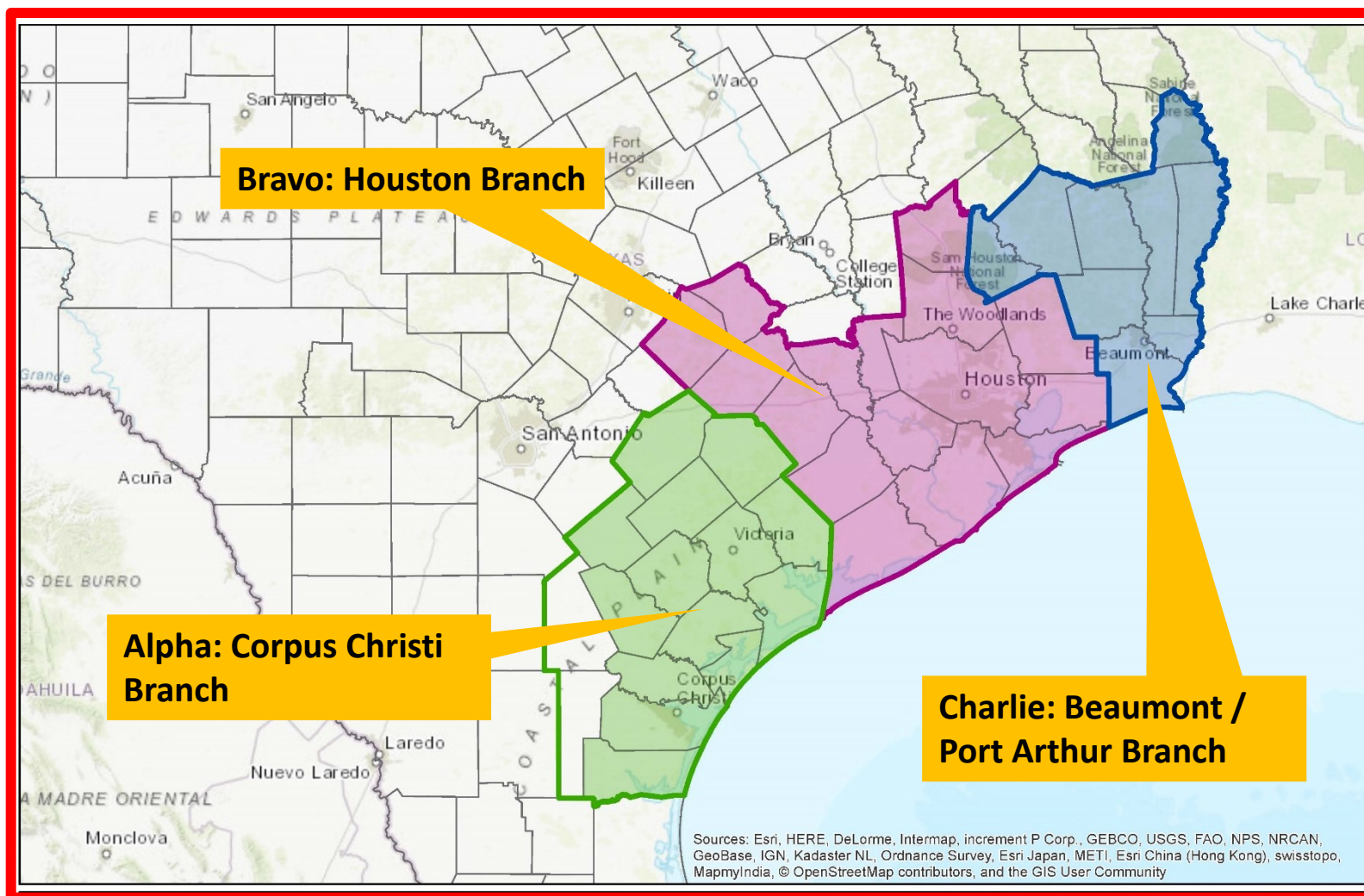


# Unified Command Organization Chart





# Theater of Operations







## Unified Command Mobile Command Post

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# Command & General Staff Meeting, Corpus Christi, TX



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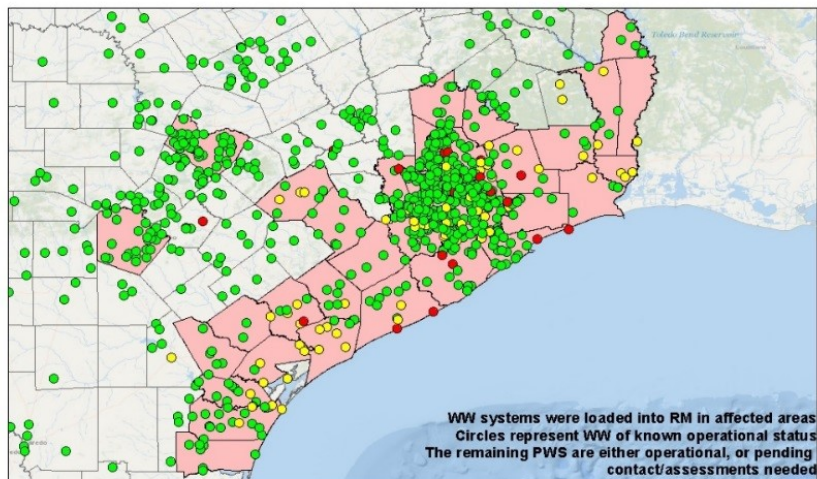


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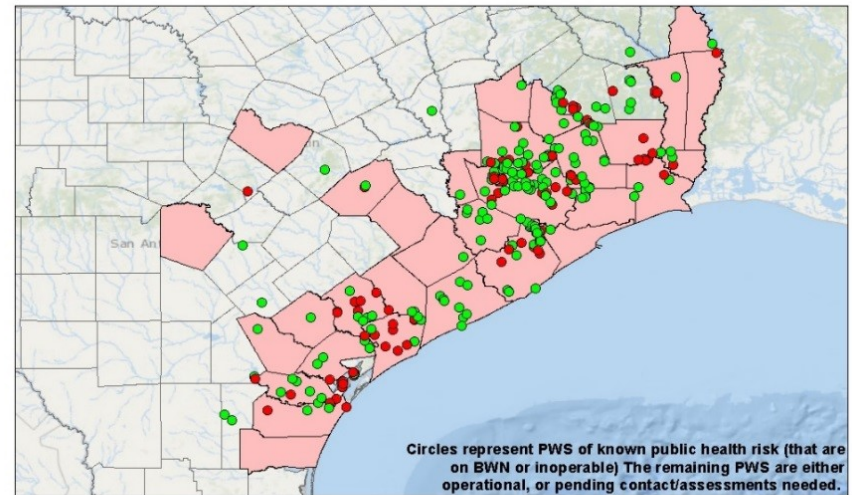
# Drinking Water / Waste Water Assessments



**Legend**

- No Problems
- Partially Operational or Affected
- Not Operational Or Destroyed
- Federal Declared Counties

US EPA Region 6  
Hurricane Harvey Response  
**Wastewater Status Map in Hurricane  
Harvey Declared Areas**  
09/03/2017 - 1400



**Legend**

- Boiled Water Notice
- Water Outage
- Federal Declared Counties

US EPA Region 6  
Hurricane Harvey Response  
**Drinking Water Status Map in  
Hurricane Harvey Affected Areas**

09/03/2017 - 1400





# Orphaned Container Recovery

Port Arthur



Port Aransas



Corpus Christi



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# Support to TCEQ / Staging Area Observers



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# Superfund Sites



# ASPECT Activities

- RMP & FRP assessments
- Pipelines
- Refineries
- Releases at chemical and oil facilities
- Releases and orphan containers





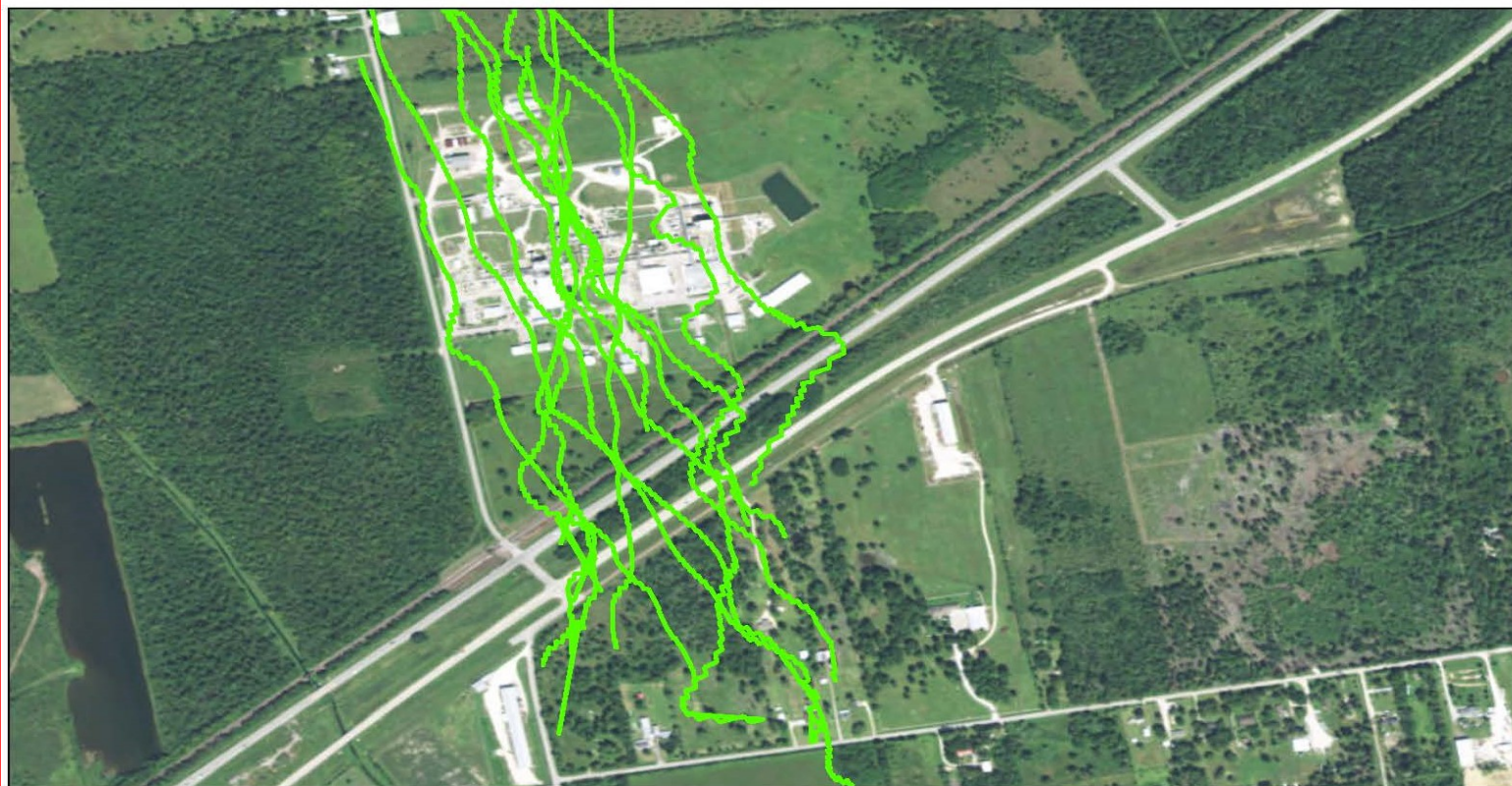
# Arkema Chemical Facility, Crosby, TX



1/16/2018







Chemical Compounds	Short-term AMCV (ppm)
1,1-dichloroethane	1.0
1-butene	27
acetone	11
dichlorodifluoromethane	10
ethyl acetate	4
ethylene	500
isobutane	33
methyl ethyl ketone	20
methylene chloride	3.4
n-butyl acetate	7.4
n-propyl acetate	2
propylene	Simple Asphyxiant
vinyl chloride	27

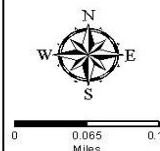
### Legend

— No Readings Above Benchmarks

### What's an AMCV?

AMCV is a collective term used to describe chemical-specific air concentrations used to evaluate air monitoring data that are set to protect human health and welfare. Short-term AMCVs are based on data concerning acute health effects. AMCVs may contain health-based Reference Values (ReVs) and health- and welfare-based ESL values. AMCVs are screening levels used in TCEQ's evaluation of ambient air monitoring data to assess the potential for measured concentrations of specific chemicals to cause health or welfare effects. Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. ESLs are screening levels used in the TCEQ's air permitting process to establish maximum emission rates that are written into enforceable air permits. Health-based ESLs are set 70 percent lower than the safe level, or AMCV. This additional buffer allows TCEQ to take into account exposure to chemicals from multiple sources in air permit reviews.

## USA EPA REGION 6 Flight 13 ASPECT



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# TAGA Monitoring Activities



- Refineries
- Sensitive communities
- Chemical manufacturing



# EPA TAGA Data for Houston & Valero BENZENE Max 20170906



Texas Commission on Environmental Quality  
OS Team (Mail Code 197)  
P.O. Box 13087  
Austin, Texas 78711-3087  
Date: 9/22/2017



## BENZENE\_MAX

- 0.00 - 0.27
- 0.28 - 0.74
- 0.75 - 1.45
- 1.46 - 2.52
- 2.53 - 4.39
- 4.40 - 7.24
- 7.25 - 15.98



This map was generated by the Information Resources Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Information Resources Division at (512) 239-4180.

CRP 20170906BENZENE

1/16/2018





# PHILIS Analytical Activities

- On- Site Releases
- Staging area sampling
- Superfund sites



# Community Liaisons





# Accomplishments

- 648 Hazard Evaluations completed
- 256 spills investigated
- 1,055 orphan containers recovered
- 625 drinking water assessments completed
- 441 waste water assessments completed
- Daily aerial over-flights for air monitoring
- Fuel waivers and No Action Assurance letters issued



# Accomplishments cont.

- 7 fuel waivers signed, 7th waiver covers 38 states
- 4 No Action Assurance letters signed
- Ground support air monitoring
- 43 NPL site evaluations completed
- EPA fully integrated with TCEQ, TGLO and USCG in Unified Command

